

Part V – A look at the Hydrogen Proposal

Cryo-system design – Water pump test

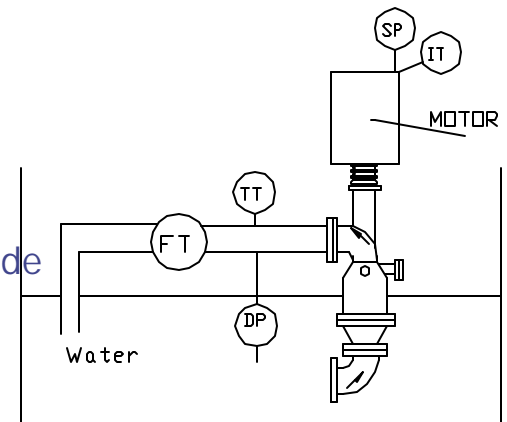
The motor of the pump should be mounted in the vertical position

The thermal path is more effective if flow travel from “bottom to top” in LH2 absorber



Pump test with water allow us:

1. to compare the mass-flow of water in direct and reverse mode
2. to measure the mass flow for different water temperature
3. to measure the mass flow for different motor current
4. to measure the Pressure drop across the pump
5. to correlate the measurement of the water flow and the motor speed
6. to determine the flow rate to use in the Mucool experiment

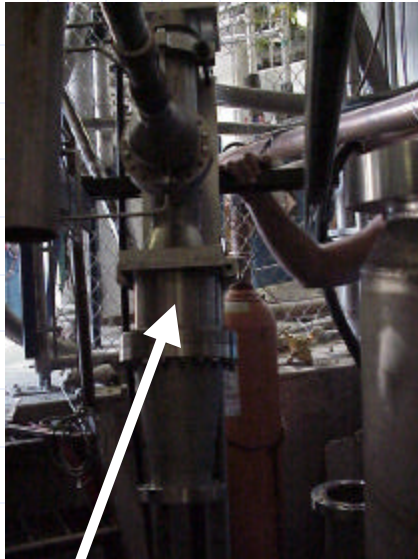


Reverse mode



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Pump and dia. reduction



Venturi flow meter



Diff. Pressure => flow



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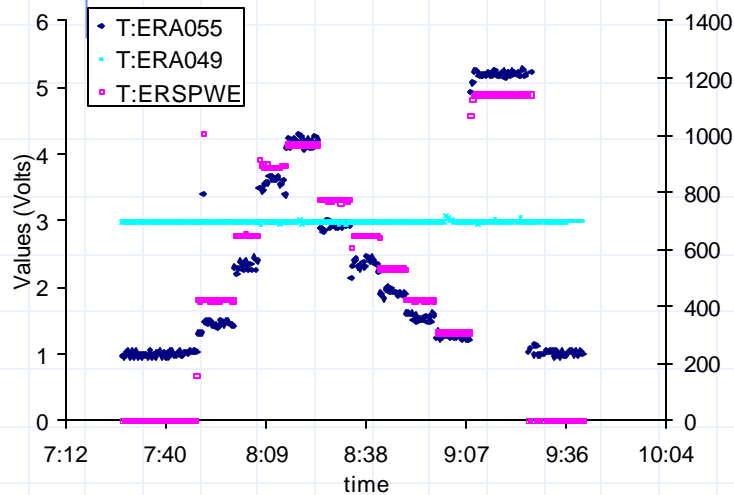
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Some results: (see internal report for detail)

1. Efficiency of the pump in the reverse more is 5 % lower than in the forward mode
2. We may not be able to run to more than 450~500 g/s

Reverse mode @ RT



Comparison for 5 run tests (2 forward+3 reverse)

